

How Completed Panama Canal Will Look to the Man on Liner Passing Through

First Official Account of What He Will See Given by the Fine Arts Commission, Which Has Been Studying the Question of Beautifying Waterway

THE report made in Washington by the Commission of Fine Arts concerning plans to beautify the Panama Canal contains an interesting description of how the completed canal will look to the man who is looking in a deck chair on one of the big liners passing through the interoceanic waterway. It is the first description of this character that has come from an official source.

"The canal, like the Pyramids or some imposing object in natural scenery," says the commission, "is impressive from its scale and simplicity and directness. One feels that anything done merely for the purpose of beautifying it would not only fail to accomplish that purpose but would be an impertinence. In such a work the most that the artist could hope to do would be to aid in selecting, as between alternative forms of substantially equal value from the engineering point of view, those which are likely to prove most agreeable and appropriate in appearance."

In describing how the canal will look when the great vessels are making their way through it the commission says:

"In approaching from the Atlantic the first land to be seen is a stretch of mountainous shore at the left of the steamer's course; this is skirted at a distance of several miles for a few hours before the low shore near the canal entrance comes into view ahead. The first sign of the canal work to catch the eye will be a low lighthouse just behind the left hand end of a riprap breakwater two miles long, which reaches out diagonally from the flat wooded shore of Toro Point on the right.

"It is possible that an additional breakwater, also having a terminal lighthouse, may be built at the left of the harbor entrance, which would provide a nearly symmetrical and effective entrance. The course of vessels in approaching is not far from the axis of the straight channel, which extends from the end of the Toro Point breakwater up the five mile length of Limon Bay and is continued into the flat land at its head as a visible canal. Through the bay this channel is to be marked by pairs of buoys.

"On the right the low wooded bay shore is about two miles distant. On the left, a mile and a half inside the breakwater light, a point occupied by the towns of Colon and Cristobal projects to within three-fourths of a mile of the straight channel. The end of this point facing the ocean is conspicuously

occupied by the rather long three story mass of the new hotel.

"To the left is palm foliage, with a brown stone church and wooden hospital buildings and quarters for railroad employees. Behind is the uninteresting wooden town of Colon, and further to the right is Cristobal, which together present to the bay a utilitarian waterfront, part shabbiness, part aggressive commercialism.

"At the head of Limon Bay the canal as a visible object begins. The bank on the left is somewhat in advance of that on the right; both are very low and occupied by a scrubby jungle rising into larger trees behind, and at a distance into wooded hills. The canal is 500 feet wide, with a few feet of cleared ground on either side to be kept open for surveying and maintenance work.

"For a distance of a mile the line is straight and in direct continuation of the buoyed channel through the bay; then it bends slightly to the right and disappears from view. The vista along the first reach of the canal terminates two miles beyond the bend, in the wooden houses of the town of Gatun, occupying hills some 150 feet high, crowned by a large black steel water tank on stilts silhouetted against the sky. This tank, which is nearly on the axis of the canal, should be enclosed in concrete so as to form a solid tower, permanent in appearance and in fact.

"The exact axis is marked by two range lights on concrete lighthouse towers, one right in the town of Gatun. These are not at present very conspicuous, but will probably be so painted as to bring them out sharply as an aid to navigation, thus further emphasizing the long, straight vista.

"The first bend in the canal takes place just where it makes a long diagonal crossing with the narrower old French canal, and where also the cut enters the higher ground of the Mendi Hills. These are hummocks from ten to fifty feet in height. The deepest cuts are about opposite each other at a point about one-third of a mile beyond the bend.

"Small beacon lights are planned to be placed at the edge of the water on each side of the canal exactly at the bend and at certain other points. From the bend the canal makes a straight run of a mile across low, flat ground to the Gatun locks, a broad, low, symmetrical mass of concrete and steel work, the axis of which coincides with that of the canal approaching it, and the length of which is a little over a mile.

"All the concrete, except such as may be kept light in color by paint or other surface applications, is rapidly discolored in the climate of Panama to a mottled blackish green, and the steel work is to be painted the dark battleship gray.

"The Gatun locks, like those at Pedro Miguel and Miraflores, will form a sort of promontory projecting from the flat irregular hills and embankments which retain the water behind the locks. The total width occupied by the two locks side by side, with the central pier separating them, and the side walls, with their towing tracks, is about 360 feet. Outside of these on each side is to be a flat earth space 100 feet wide or more, sloping just enough to drain the surface water away from the lock. This is intended for use as a wharf for the handling of material to be loaded on or unloaded from vessels when passing through the lock and for other purposes. At the outer edges of these flat spaces the ground is to descend in steep banks.

"Each pair of locks, of which there are three at Gatun, will thus form a sort of raised terrace nearly 600 feet across and about 1,000 feet from front to rear, and the next higher pair of locks will rise from it with a transverse terrace bank some thirty feet in height. The top of the lock masonry itself does not step up architecturally from one pair of locks to the next, but rises by an ogee slope so as to enable the towing engines to climb from level to level.

"Beyond the Gatun locks, for twenty-three miles through Gatun Lake, there will be nothing that looks like a canal. So much of the shores as are within close view of the channel are generally steep and beautifully forested. There is a distressing fringe of dead trees rising from the water everywhere along the shores. In the opinion of the engineers most of these trees are likely to rot off at about the water line in the course of two or three years; but, as the water level will fluctuate several feet, it seems probable that at least the stumps of numberless snags will continue to show above the surface much of the time for a great many years. As very little of the timber was marketable, the cost of clearing the forest before flooding was felt to be too great to justify removing it, except from the navigable channel itself. This is much to be regretted.

"The high bold hills around the lake make many of the distant views very beautiful. The only canal structures in the lake section are the aids to navigation: Lighthouses, small range lights and tripods, all made of reinforced concrete and nearly all open to criticism as to details of appearance. Most of them are completed, and it is too late to modify the designs.

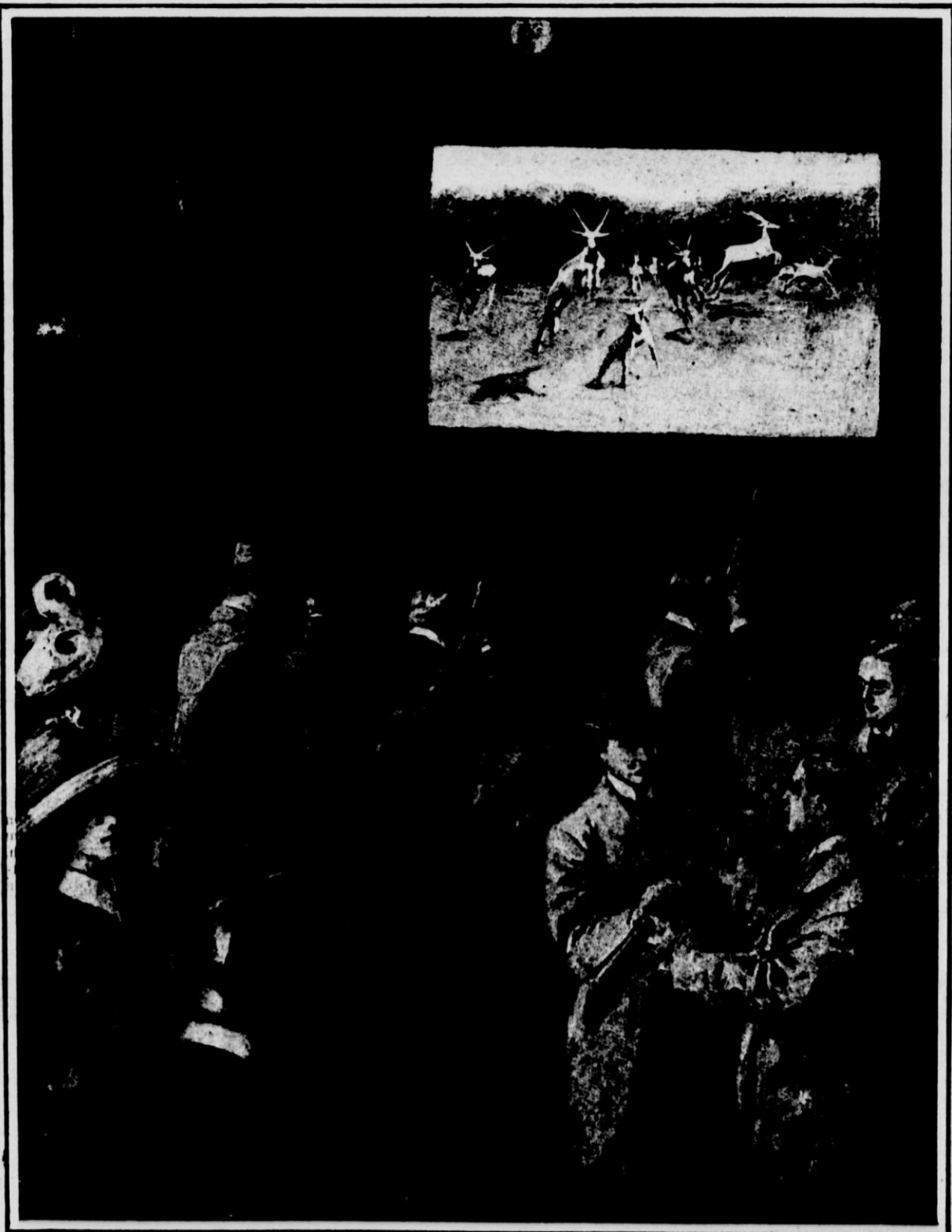
"Occasionally toward the upper end as the lake narrows down the edges of the channel show above the water surface as straight red bluffs where projecting points have been cut through.

GOLFERS. HERE IS MODEL OF IDEAL COURSE

Mr. N. Herbert Fowler, who, in conjunction with Mr. Simpson, is well known in the golfing world as a designer of new courses or new holes on old courses, says the "Illustrated London News," has made a model which shows all the qualifications of a perfect golf course. First, he explains, the course must be among sand dunes, at the seaside. Secondly, the position of the clubhouse should render two starting points accessible. Thirdly, there should be no crossing. Fourthly, there should be four one-shot holes. Fifthly, not more than two holes should be played in the same direction consecutively. The figures on the model show the distance and position of each shot until the green is reached, when two putts are allowed to the player in every case. The course is 3,296 yards out and 3,490 yards home. The par of the green is 36 out and 38 home—a total of 74. But this score would be very difficult to attain. A scratch player should be fairly content with a 44 out and a 43 home—a total of 87.



Shooting the "Movies" — A New Target for Rifle and Gun Practice



A drawing by Douglas Macpherson in the "Graphic" (London) shows the latest use to which "movies" have been put. They are now used by sportsmen as animated targets for shotgun, rifle and revolver practice. The moving picture is projected in the usual way, but as soon as a bullet pierces the screen the picture stops for an instant and a bright spot of light indicates the hole made by the shot. Then the film moves on again, the hole in the screen being automatically obliterated, so that there is no possibility of a "repeat."

Where the channel departs from the flooded Chagres Valley the latter is barred off by a railroad bridge and the banks of the canal cut are at first so low that the transition is much less striking than where the canal leaves Limon Bay.

"The Culebra cut section, extending eight miles from this point to Pedro Miguel locks, is uniformly 300 feet wide, in a series of straight reaches with slight angles between. The raw banks rise very irregularly both as to height and as to rate of slope. Rarely clifflike, they will generally become covered with vegetation and look not very strikingly different from natural steep hillsides.

"Altogether the boldest and most striking feature immediately along the line of the canal is at the point of deepest cut, through the continental divide, where the rocks on both sides happen to be a hard trap which stands very steep and is safe from the breaks and slides which occur elsewhere along the cut. The highest point of the cut, begun by the French, is on the left side, some 447 feet above the water of the canal.

"At Pedro Miguel there is one pair of locks essentially similar to those at Gatun. From this point the two miles to Miraflores locks are through another lake, much smaller than Gatun, but of the same landscape character, with irregular shores not at all canallike in appearance. Two pairs of locks at Miraflores connect with the sea level canal on the Pacific side, which runs through flat land to the new port of Balboa, now under construction.

"There are striking hills on both sides at some distance from the canal. At Balboa, on the left as one approaches the Pacific, a hill called Sosa comes close to the canal with just a margin of navy yard shops and docks between. These shops promise to be rather ugly, but are so far advanced that no material changes could be made in the plan.

"Turning to the left around Sosa Hill the canal passes out through the bay among very interesting islands with bold headlands to the right.

"There is no point on the Pacific side at which there is so distinct a beginning of the visible canal as at the head of Limon Bay on the Atlantic side.

Among the specific recommendations made by the commission are the following:

"The commission is impressed with the desirability of marking with some dignified architectural feature the point at the Atlantic end where the canal enters the land, sharply accentuating the transition from the buoyed channel in the open bay to the canal proper, and marking a definite entrance.

"If it is found to be impracticable to mark this point monumentally, we would recommend that the beacon lights 1 and 2 be reduced to low structures comparable with the illuminating buoys used to mark the channel through Limon Bay. We would further recommend for consideration the possibility of building lighthouses or some other form of monument at the first high solid ground encountered in entering the canal from the Atlantic, at the Mendi hills, where the Gatun locks first attract attention. The chairman of the Isthmian Canal Commission, who expressed doubts as to the practicability of building anything of importance at the locations of beacon lights 1 and 2, suggested this point as preferable. The bend in the canal would throw any pair of monuments erected on the highest of these hills off the axis in approaching from the sea. This is unfortunate, but it could perhaps be obviated by erecting the structures on artificial mounds exactly at the angle.

"It seems at first to be desirable that the entrance to the canal from the Pacific should be marked in a manner somewhat similar to that proposed at the Atlantic end. Unfortunately the conditions near this entrance, particularly on the east side, will not admit of this treatment. The shore at this point is occupied by docks and coal storage, with which any extraneous structure would come in conflict. Moreover there are points of interest as one approaches the canal from the Pacific with which it would be unwise to attempt to compete by any structure built for artistic reasons alone.

"The shore itself, with its rugged range of mountains, is inspiring, and the islands guarding the entrance are interesting in the extreme. The islands to the south really will guard the entrance, as three of them are to be occupied by forts with heavy guns. The second one, Perico, is most unusual and picturesque. Naturally a wooded mount, rising abruptly out of the sea, the top has been flattened for a fortress and a spiral roadway encircling the island leads up to it from the causeway

which connects this island with its neighbor, Nuos, and thence with the mainland.

"In our opinion the only place upon which a monument might be erected would be on the small round hill at Point Farfan, which rises directly from the water at the entrance to the canal and is symmetrical in form. It would, however, be difficult to erect any structure here that would not appear to be forced unless it were a lighthouse, and the plan for lighthouses and beacons does not provide for a light on this eminence. All things considered, we are not prepared to advise adding any structure to those already projected at the south end of the canal.

"After the completion of the canal the work of maintenance and operation will require the residence of a considerable permanent population of employees on the Canal Zone. It is expected that these will be concentrated at five centres. Four of these are now occupied by the construction force and at these it is proposed to utilize the present quarters as far as available, with such gradual replacement and changes as may prove necessary.

"These are (1) Cristobal and Colon, chiefly for those concerned with the port, with the sea level section of the canal on the Atlantic side and with the Panama Railroad; (2) Gatun, chiefly for those working at the Gatun locks, spillway, power plant and features auxiliary thereto; (3) Pedro Miguel and (4) Miraflores for those working at the locks of those names. At the Pacific end of the canal the new town of Balboa is to be created, containing the general administration offices and provision for those working in them, in the navy yard shops and docks and in connection with the port and the sea level section of the canal.

"The Commission of Fine Arts believes that a memorial record of the building of the canal should be made in the form of an impressive inscription upon a great monumental surface at some point of prominence, and a careful examination of the whole length of the canal led to the choice for this purpose of the east wall at the point of deepest cut, 492 feet, at the continental divide. While the size and design of this monument should be the result of careful study, we are inclined to believe that it should be approximately 100 feet in height and somewhat more in width;

that it should be severely simple in design; that the lettering should be done in Roman V shaped letters large enough to be easily read by normal eyes across the canal, and that the material should be concrete applied as a massive facing to the irregularly fractured trap rock of the cliff.

"We strongly recommend this and regard it as one of the most important matters to be considered.

"We suggest also the possibility of marking the highest point of canal excavation on Gold Hill immediately over the proposed inscription with some form of monument. This should be considered carefully by the designer of the principal monument."

The report and recommendations were drafted by Daniel C. French, the sculptor, of New York, chairman of the Fine Arts Commission, and Frederick Law Olmsted, landscape architect, of Boston.

Petrified Forest in Texas.

IN Comanche county, Texas, is a petrified forest which rivals in interest the petrified forests of Arizona. Parts of trunks and boughs of the stone trees have been carried off, but great quantities of the petrified wood remain, its weight having protected it from the curio hunters. A trunk of a tree twenty feet long and ten inches in diameter is a load for four mules.

When the forest underwent petrification has not been determined. The nearest station is Comyn, Comanche county, on the Texas Central Railway. From Comyn a drive of four miles northwest takes one to the edge of the forest of stone.

Roots, bark, twigs, buds, leaves and sap sprouts are perfectly preserved. Knotholes, holes made by woodpeckers, stumps of broken twigs are all about just as they grew, and are said to be as clear in delicate tracery the petrified trees of the Black Hills or those existing on the Nile.

A small bough was shipped to St. Louis several years ago and attracted much attention. The stone closely resembled agate and was capable of receiving a high polish. The fact that in some cases fossilization has not been fully accomplished, leaving a tree part stone and part wood, is regarded as particularly remarkable.